

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Andy Howard WA4KCY <102452.362@compuserve.com>
Subject: RE: \$12 and the destruction of amateur radio
Message-ID: <960327172403_102452.362_DHT74-1@CompuServe.COM>

>Cul Later Folks I won't be a part of something that is going to contribute
>to the destruction of AMATEUR RADIO in the US.

>73

>QRT

d>e N4YXW@N4YXW.#NOVA.VA.USA.NOAM

>Keep Packet Radio Free and Save Amateur Radio from Destruction by refusing
>to pay.

It makes me wonder if this gentleman is a member of that organization whose name we are forbidden to mention here on the list. Now someone might make a case about contributing to that destructive entity.

Another point. If \$12 paid to keep the list going destroys amateur radio then we did not have much to begin with. Being an old AM operator I was always under the impression that when SSB came along that was the beginning of the end. I was wrong there. AM is still going strong even though SSB is all around us.

You just cannot make a vintage wine from "sour grapes".

Sorry Jack. Just could not help myself.

Andy, WA4KCY
Heavy Radios
Heavy Weapons
AMI #9

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: stever@cybercomm.net (Stephan Rashkin)
Subject: RE: \$12 and the destruction of amateur radio
Message-ID: <199603271751.MAA04286@raven.cybercomm.net>

>

>>Cul Later Folks

I don't want to continue this thread, but I really don't consider myself paying to use the BA list..Instead I feel like I am helping to support it..maybe if some others who are planning to leave thought of it that way it might make a difference..

Steve, WA2NHZ

Looking for: 1. Johnson VF-122 VF0
2. BC696 / T-19 Command Xmtr

Steve Rashkin, WA2NHZ
Howell, New Jersey

E-mail: stever@raven.cybercom.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: arc5@ix.netcom.com (David Stinson)
Subject: RE: \$12 and the destruction of amateur radio
Message-ID: <199603280408.UAA23953@dfw-ix9.ix.netcom.com>

Good Grief.... don't let the door hit
you on the butt on the way out, fellas....

.sheesh....

Sounds like folks who see Elvis in their closets
at night and have been abducted by UFOs or something...

Will wonders never cease...
Dave AB5S

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "Terry O'Laughlin, RM:7135, #:6-6667" <OLAUGHLIN@vilas.uwex.edu>
Subject: 1TF10 ballast info needed
Message-ID: <MAILQUEUE-101.960327121202.608@vilas.uwex.edu>

I acquired a large quantity of 1TF10 ballast tubes and my Amperite
catalog doesn't list them. Does anybody have the ratings?

I have 100, so if anybody wants any to play with, I'll part with them
very reasonably.

No, they won't replace a 3TF7.

73 Terry O' WB9GVB

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Michael.J.Knudsen@att.com
Subject: Re: 390A BFO adjust?
Message-ID: <9603272032.AA01498@bock.ih.att.com>

I didn't see the query (yet) that Kevin replied to.
But the BFO (and maybe some other R390A functions) rely on an external stop to limit knob rotation to under 360.
There is a bump cast into the knob skirt underneath -- this hits a tab on the front panel (part of the lock washer, I forgot?) to limit the rotation.

Any time the IF chassis is less than fully installed, the BFO shaft can be turned quite a bit more either way. You can damage it by forcing it too far. And of course you can tighten up the knob with the shaft way the heck off freq.

You may have noticed that several other knobs, if installed too close against the panel, will bind or stop dead about halfway thru their rotation. This is that skirt stop (all the small knobs are alike that way) hitting something on the panel mounting of that control. 73, mike k aa9rg

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: w8kux@sprynet.com
Subject: 4-65A tube data
Message-ID: <199603272141.NAA13214@m1.sprynet.com>

Does anyone have a copy of the
Eimac 4-65A Technical Data Sheet?

Chas
w8kux@sprynet.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: sinned@VNET.IBM.COM
Subject: 40m BA QSO Freq.
Message-ID: <199603271702.LAA18768@uro.theporch.com>

Bob, et all,
Several of us have been keeping the color-burst freq. occupied even if you are away having fun! I haven't seen any discussion/agreement on a freq. for 40m BA QSO for those nites when the QRN is S9+ on 80. Also, what about a 30m freq. for those of us who have continuous coverage military BA rigs?

Any suggestions anyone?????
Dennis KC5EPZ

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Kevin Pease <hamradio@mm1001.theporch.com>
Subject: Re: Aligning any radio
Message-ID: <Pine.LNX.3.91.960327191813.3334A-100000@mm1001.theporch.com>

On Tue, 26 Mar 1996 Michael.J.Knudsen@att.com wrote:

> But if I set her up at 3.9, then the entire band is pretty darn close,
> except of course the last couple ticks at the top (3980, 3990, 4000)
> read low. The error is just near the top. *Same* effect on all Ham bands.
> So my BS tuning capacitor probably has a quirky oscillator section.
>

Mike I would suspect that maybe your bandspread dial is not positioned correctly on the capacitor shaft. The last few degrees of the capacitor is not to linear since the plates are almost totally extended out of the fixed plates.

I had a HQ-170 that had poor dial tracking also. Also the problem you mentioned about the IF selectivity not being symmetrical and of the desirable shape and width for AM is one of the reasons that influenced me to sell the 170 that I had. The other was the poor dial calibration tracking.

My HQ-120 is much better than the 170 or any 180 that I have seen. I guess the more modern radios were more value engineered. IE better profit margins.

Kevin Pease
WB0JZG Mount Juliet, TN.

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "Rhett T. George" <rtg@ee.duke.edu>
Subject: Alinement
Message-ID: <199603271609.LAA105232@ee.duke.edu>

- Greetings -

Ho, some of you have found this strange word - straight out of the G P O spelling dictionary. The official spelling, no less. Our gummint at work, revising the king's English, as it has no thing better to do.

73

Rhett - KE4HIH

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996

From: Richard Biddle <rbiddle@madvax.mo.ti.com>

Subject: Re: AN/URM -32 Frequency Meter Forsale 125 KHz -1000 Mhz

Message-ID: <3159AB52.BC@madvax.mo.ti.com>

Folks, I just wanted to point out Allen Tucholski's for sale posting. This should be the benchmark for all for sale postings here and used as an example for the FAQ.

1. A good description of the thing for sale which would mean something to those readers who do not have all the FSNs memorized.
2. Notes about modifications.
3. An asking price.
4. Estimated shipping weight and size.
5. Originating ZIP code.
6. A phone number and an email address in the body of the message.

Although I don't need such an animal right now, I think it would help out a lot of list readers (even the hard core fanatics) if all the for sale posts were so clean. Heck, I'd almost but it just because the posting was so well done - but the XYL wouldn't understand.

(Stepping off soapbox and hoping I didn't embarrass Allen)

--

73 de Richard, KB5WLH
rbiddle@madvax.mo.ti.com

<< The Internet - CB Radio >>
<< For The Nineties >>

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996

From: dma@IslandNet.com (Jan Skirrow)

Subject: ARC 502 Info Needed

Message-ID: <m0u20t8-0000dnC@island.amtsgi.bc.ca>

Thirty years ago I bought an ARC 502 receiver, and converted it. (What can I say - I'm sorry I hacked it - I was young - I thought the kindly government

would keep supplying me with cheap electronics forever.) It was Canadian Air Force surplus, but of US manufacture.

It didn't work, so I packed it in a box where it's stayed ever since, moving back and forth across the country with me. Recently I decided it was time to get it running, or junk it. Is there a prize for the longest procrastination? Anyway, after figuring out what I did in 1969, I found I'd made a wiring error. That fixed, the receiver was alive. It's not very sensitive, and it should be, so there is more to do. One micamold cap had gone to cap heaven over the 30 years (the squelch didn't work as a result), so there are probably more problems of this sort - and alignment, of course.

My question is: I've seen no references to this receiver on the BA list. Is it known by other designations? What is the matching transmitter? It was made in the 1950s and was in service in the RCAF until the early 1960s (according to the dates stamped on the chassis).

Thanks

Jan Skirrow, VE7DJX
dma@islandnet.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: BA Net
Message-ID: <9603271701.AA112262@csemail.cropsci.ncsu.edu>

>
> OK, brass pounders, I got my Digi-Key BA/Color Burst crystal
> and got the ol' Adventurer on last nite with Paul, K9NO (running
> one of them "after-market" Adventurer clones called a Knight
> T-50). Signals were FB (abt 5-6-9 wid lttl QRN), but where wuz
> everybody else?
> Paul, K4MSG

Ol' Boatanchor Bob has been hot and heavy with a big project at the tinkertoythinkustankus, so I have been tardy for a while. But, that project is over now, so I am gettin' itchy fingers ta rattle an' bang with the boys on the ol' brass monkey.....

.... aye there mateys, grapples ye yer tin cans atop yer noggins,
an keeps yer sendin' irons at the fore.....

QRG 3579.545 QTR 0300/0400/0500/0600 UTC

BV OM

DE NA4G
UP

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Brian Summers <bsummers@dragon.achilles.net>
Subject: BC-348 Help Need
Message-ID: <m0u28XA-000623C@dragon.achilles.net>

Hi folks:

Continuing the saga of jitter on my demodulated CW audio signals. Had the HF oscillator out last weekend (thanks to KE6PPF for info - simple once you know what to do). Replaced the following components in this assembly: Osc plate .01 bypass, mixer cathode .01 bypass, oscillator tube grid 100 pF to tuned circuit, osc grid 100K to ground. Disconnected ground lugs, cleaned mating surfaces, reassembled. All removed components checked OK. Rig still has same problem.

I've also substituted an external stabilized DC supply for the receiver B+. To those who've asked, yes, the problem is common to all bands, but gets worse as the frequency is increased. I've also tried a xtal controlled signal source at 8 MHz just to eliminate any possibility of signal generator problems contributing to the problem.

My thoughts are now leading in the following direction. All rigs I've worked on in the past have had the tube heaters wired in parallel with a twisted pair, the centre tap of the 6.3 volt winding being grounded. Or, if no centre tap, then one side of the 6.3 volt supply grounded; usually at the transformer. In this receiver each of the tube heaters has one side grounded to chassis, as is one side of the 6.3 volt supply. The other side of the tube heaters are then connected together to the 6.3 v hi.

I'm wondering if the heater wiring connected this way is contributing to (causing?) the problem. To really prove this I'd need to rewire the heater circuitry. But with so many BC-348s modified over the years I'd have expected others to have experienced the same problem.

So fellow boatanchorites - any thoughts before I press on and rewire the heater circuitry?

73, Brian, VE3JKZ

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996

From: "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>
Subject: Bending a Dipole
Message-ID: <Pine.SV4.3.91.960327124546.16228C-1000000@mesa5.mesa.colorado.edu>

Does anyone know how bending a dipole's legs at right angles to each other (kind of like a "Vee" antenna with both legs in a horizontal plane) affects its performance and its impedance?

Jim W0KSD

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Peter Gerba <pgerba@crl.com>
Subject: Re: Bending a Dipole
Message-ID: <Pine.SUN.3.91.960327133445.7682B-1000000@crl8.crl.com>

Hi Jim;

I don't think it will have a highly negative effect. Just make sure that the same amount of wire is bent on each end...and try to have them go in the same direction. Current comes from the center of the antenna, voltages at the ends (and some other places depending on the wave length of your antenna). A ham I know has a 80 meter - 160 meter dipole with a common feed. One leg of the 160M dipole is tied to the roof of a parking area and travels the perimeter (sp?) of the structure. The other end is in his garden. The garden end suffers from his trees and the trees get trimmed when his SWR gets high on 160. He's worked lots of DX on 160 with 100 watts. His antenna, an inverted V, works well.

I'm sure there are lots of antenna builders on here so please add to this. I've found that hams who build their own antennas build and fix their own rigs.

I know this is a bit off the norm here (hi Jack) but Boat Anchors need antennas too.

pete, kn6bi
pgerba@crl.com

On Wed, 27 Mar 1996, James P. Rybak wrote:

>
>

> Does anyone know how bending a dipole's legs at right angles to each
> other (kind of like a "Vee" antenna with both legs in a horizontal plane)
> affects its performance and its impedance?
>
> Jim W0KSD
>
>

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Bold & clever thieves, them Moroccans.....
Message-ID: <9603271417.AA20246@syseng1.se.melpar.esys.com>

>That's not so bad - a guy I know who was at a military base in Morocco related
>a story about problems they were having with the locals cutting lengths of coax
>from their antenna feeds to get the copper.

That would have been Naval Radio Station (T) Bouknadel,
located between Kenitra and Rabat, the transmitter facility.
They ran 10kw and 40kw HF transmitters (AN/FRT-39 and
AN/FRT-40) and 200kw on VLF (some big Continental beast) to a
pair of 800-foot, top-loaded towers.

While a lot of their feeds were to older rhombics
(open-wire feeders strung overhead on cross-tee poles about 10
feet high), around 1970 they were switching over to LPAs fed with
Andrew Heliac. They also had a number of dipoles fed with large
diameter (RG-85?) coax which was buried.

At NAVCOMMSTA Morocco in Sidi Yahia, located north and east
of Kenitra on the road to Fez, we once had the lines between the
Receiver Site and Facilities Control (about 1.5 miles) go dead
during the night. The Marines were sent out to investigate, and
the upshot was that the natives had *DUG UP* two ends of a
100-pair, lead-sheathed TTY cable buried about three feet deep,
hacked it off with machetes, tied it to a donkey's back and
proceeded to pull about 100 feet of cable up out of the ground.
As they dragged it across the antenna field in the dark they
hacked off the cable in 2-3 foot lengths and stuffed it into
bags on the donkey's back. This was surmised from the fact that
the cable "snake trail" abruptly ended about halfway across the
field but the donkey tracks continued.

We didn't catch 'em, either.....

Paul, K4MSG

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>
Subject: Re: Bold & clever thieves, them Moroccans.....
Message-ID: <Pine.A32.3.91.960327072416.38080B-1000000@violin.aix.calpoly.edu>

Under Islamic law, if these folks were caught, wouldn't they be liable to lose a left hand? Cal.

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: KB9VU@aol.com
Subject: Re: Boneyard trip again "sigh"
Message-ID: <960327044604_455979051@mail06>

Larry - Please quit talking about the "Bone Yard" Every time I hear about it, I remember looking down at it in the break and wondering why there were newer airplanes sitting in front of the "disassembly" area than I was flying AND what were they going to do with that many cocooned F-100's, F-102's and F105's. The drone program got ALL the Ducses and most of the Huns. Not sure what became of the Thuds. I still remember delivering a fully functional F-84F and F-100D to DM. Got the Bator Computer out of the Hog and the UHF head out of the Hun as momentos. Stick Grip also found it's way out with me but I later donated that to a retirement award. I really hate to think of what happened to all the ARC-34's, ARC-50's and ARC-60's that were stripped out of those old birds! Sure do hate to see all our fighter history going thru reclaim!

73, Smokey Stover VSHFP

KB9VU@AOL.COM

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Henry van Cleef <vancleef@bga.com>
Subject: Re: Boneyard trip again "sigh"
Message-ID: <199603271040.EAA00759@zoom.bga.com>

As KB9VU@aol.com said

>

> Larry - Please quit talking about the "Bone Yard" Every time I hear about
> it, I remember looking down at it in the break and wondering why there were
> newer airplanes sitting in front of the "disassembly" area than I was flying
> AND what were they going to do with that many cocooned F-100's, F-102's and
> F105's. The drone program got ALL the Ducses and most of the Huns. Not sure

> what became of the Thuds.

>

Reminds me of the trip a bunch of us took from Portland down to Tucson to pick up a bunch of T-28A that we'd bought "in civilian license." Won't bother to comment on all the oil that leaked out of the prewar C-45 we flew down in---the original "wet wing." Between us we had maybe 10 minutes of T-28 time---one guy sat in one on the ground and ogled the panel. Our airplanes had N numbers slapped on them with a broom---no stencils or anything, but at least we got handed valid airworthiness certificates and some manuals. For "checkout" we got to retire to a motel and read the manuals. I never saw so many dials on the panel of a single-engine piston airplane, all marked in "jet" terminology. Morning came, and there was nothing to do but top off the tanks, see if we could conjure a start out of those old Wright 1300's (all marked with builder tags naming Kaiser-Frazer as the builder---rather underwhelming, to say the least). What they had for radio besides ADF's I don't recall---I think some command sets that weren't much use to us. Fortunately, the weather was severe clear all the way home, and most of the route was over flat terrain, which made us a bit happier. What we got, notwithstanding all the hardware on the panel, were basic VFR airplanes.

An awful lot of iron has gone through that place, and there are folks who'd give their eye teeth for some of the stuff that's been cut up and recycled to surround Coors beer in unit quantities. I think that's what happened to all the retired Thuds.

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Henry van Cleef <vancleef@bga.com>
Subject: Re: Brought Up new HQ-180C
Message-ID: <199603270522.XAA08735@zoom.bga.com>

As Michael.J.Knudsen@att.com said

>

> Tnx a lot, Grant. I'll yank those shields tonite.

>

> As for the dust covers over the caps, I wish whoever wrote that update
> could see my dusty, slightly pitted chassis and the beautiful
> shiny tuning gangs and snow-white ceramic stator mounts under

> the covers. Over the long term these covers really paid off.
> Maybe if too much conductive crud built up on a cover, it could
> act as a low-Q electrostatic shield and degrade performance --
> but then, that same crud would have landed on the condenser plates and
> the ceramic spacers instead, if you wanna talk about degraded performance.

Well, that's the difference between my HQ-155 and RME-45. The HQ (which was, admittedly, very clean when I got it) is like new under those covers, and only needed a serious retweaking of some front end caps that someone had misadjusted badly. Helps to use a signal generator when you are lining up a radio.

The RME-45 is completely open, top and bottom. I took off the "Radio Condensor Corp" cap, and immersed it for a day in a soap-and-water solution. The solution turned brown, and there were shards of dirt on the bottom of the container. The innards of the coil boxes, while out for replacement of the leaky mica padder caps and snipped-out wax paper bypass caps, got a very thorough washdown as appropriate for each component. I'm astounded at the difference in performance in this set "before" and "after" this cleanup job. While I rebuilt the front end completely, using all new resistors and fixed capacitors, the one fault I had diagnosed that justified taking the thing apart was a problem with one oscillator section.

My S-36A has a completely covered front end---coils, caps, and acorns are all inside. That radio was absolutely filthy when I got it---about a quarter inch of cruddy sawdust on everything inside except inside the RF box. Even so, that had a rich coating of brown that wanted cleaning up. Those dust covers slow things down, but don't keep everything out.

>
> The true Hammarlund tradition would've been to make those covers of
> Al or Cu and retune the trimmers to compensate, but if you want Super Pro
> quality, take a friend and go get one :-)
>
> Besides, the covers make a comfy place to rest your hand while tweaking
> alignments -- jsut be sure to lift your hand before finishing the adjustment,
> since hand capacitance didn't go out with the regen bloopers.
>
> BTW, my manual was zeroxed out of a public library and is missing the 1st
> two pages, so I have no publication no. for it. However, the page page
> warranty sheet does show "A Giannini Scientific Co". (Oops, I meant
> last page). BUT -- the chassis photo shows every tube shielded
> but the rectifier, VR, and output -- just like my radio.
>
> I guess Hammarlund didn't want to bother re-shooting the photo,
> or rather Giannini didn't. Moore's 3rd edition gives the sequence of
> Hammarlund's various owners, but maybe not the exact years.

> At least Collins is still on her first marriage :-)
>
> BTW I am making good but slow progress on polishing out the "frostiness"
> from my clock face. 'Twas a good way to kill 3.5 hrs while watching
> the Oscars. 73, mike k aa9rg
>

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: "David L. Thompson" <thompson@mindspring.com>
Subject: Re: Central Electronics CW Keying?
Message-ID: <199603280430.XAA06907@borg.mindspring.com>

:
>I have a Central Electronics 10A exciter with homebrew VFO. For some
>reason, after being stored for 15 years, it didn't work when I blew the
>dust off of it and powered it up. How does one key this
>old transmitter on CW. The manual is strangely silent on this. It has
>AM, DSB, SSB, and PM, but no CW.
>
>73,
>
>Steve WA9JML

I looked thru some of my old QSTs that had ads for the 10A, 10B, 20A and all
said "break-in CW."

The pictures show a key jack (10B, 20A) and I knew several hams that ran CW
on them years ago. On both the 10B and 20A the key jack is the inside jack
on the bottom right. On the earlier 10A the key jack is the upper jack on
the bottom right. The other jack is for the headphones.
(See picture of 10A in Nov 1952 QST page 127).

Wish I could say more but except for walking by them for sale at hamfests I
have not seen one in operation for over 30 years.

Dave K4JRB

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996

From: maccary@on-ramp.ior.com
Subject: Civics
Message-ID: <m0u27kA-000TXdC@on-ramp.ior.com>

BAers, were you also somewhat perplexed by the email of the person who replied to the notice that his dues were in arrears? One has only to look at the recent history of other voluntary civic organizations to understand the declining interest in ham radio. The Shriners, Jaycees, Masons, Elks, American Legion, VFW, and similar groups have been in decline for about 3 decades, Not coincidentally, the decline in those and our organizations are connected to the dominance of TV in our lives. Those of us who grew up with the TUBE developed what is called a "privatized leisure", meaning that we do not have to engage other people in order to have entertainment or education. Therefore, we have little need or use for civic associations.

Enter the computer and slow death of civic groups is assured. The Internet makes international as well as national communications much simpler than trying to arrange a sked with someone in New Zealand, assuming you had the hardware and beam antennas and cooperative sunspots. My whole computer plus printer and modem connection cost a lot less than just the ricebox, not counting all the other stuff to get on the air. Kids now grow up with the computer and it is pretty exciting, just ask my 12 year-old nephew.

I don't mean to demean the importance of ham radio, I spend a lot of my retirement working on an ailing RME 84 or a loop antenna for my also ailing Galaxy 5, or building my version of the SW3. We just need to know that a paid subscription to this group is not going to kill amateur radio or somehow ruin packet radio.

Mac--WONAX
Lawrence M. MacCary --- A Subscriber at Internet On-Ramp, Inc.

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: "Howard R. Weeks" <weeksh@csranet.com>
Subject: Cleaners

Message-ID: <199603280018.RAA27347@usr3.primenet.com>

Greetings!

I have used a cleaner on old "anchors" for a number of years that I have not seen any mention of on this list - so thought I would add it.

Lanolin based hand cleaners, such as "GOOP", and known by many other names, is excellent for cleaning crinkle paint finishes, plastic cases, and about any other part of a radio that you might want to clean. Wipe it on, let set for a while, scrub with a tooth brush, and wipe it off. It works better than anything I have ever tried on crinkle paint. Have never harmed anything with it - but I try not to put anything on the painted surface of dial glasses. Learned that one long ago.

---Howard Weeks
weeksh@primenet.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: lkayser@WorldLink.ca (Larry Kayser)
Subject: Copper Cable, disappearing
Message-ID: <9603280301.AA27147@beacon.WorldLink.ca>

More about copper cable that disappeared.

When I was in India and found some guys in the telco we were chating about business and the told me they bury all cable 15 ft or more down. If they do less, it disappears the same way the stuff did in Morocco. Once one of those trees that look like an umbrella about an acre in size, was pushed over in a storm, it pulled up a large, 300 pair or so, cable. They lost over half a mile of that cable before daylight the next morning.

They did not catch those guys either.

Larry

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Guy Dragoo <gdrag@proedge.com>
Subject: Courtesy and Kid built Heathkits
Message-ID: <01B9FD46.68A23C00@ft212.computek.net>

>I think we have heard enough about bad deals with broadcast =
transmitters,

>Kid built Heathkits and Techtronics equipment. Get a life !

I'm sorry to say I missed this posting (caught it in Al's nicely worded, = very upbeat review). I guess as with all things in life there are those = that figure what they have to say is a lot more important than what = others have to say. There is alot of this on the internet. I have seen = this behavior refferred to everything from a "frustrated pimply faced 14 = year old runt unable to get dates" to a obviously "maladjusted, unhappy, = dejected soul". None of these comments as posted will probably effect = their behavior

So...I offer the following solution (not my idea but I thought it may be = worthy of reopeating) to all you anchorites and purveyors of common = courtesy and polite public behavior. Any time you see rude and = otherwise misbehaving individuals simply return email their own = comments. Since they are not interested in what others have to say, = maybe they will appreciate seeing all their great words returning to = their mailbox in grand form (a nineties way to give a spanking).

Just a thought...

Thanks and 73
Guy Dragoo KC5QPK

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Jacqueline Herman <jherman@sierra.net>
Subject: Re: Crying Towel Almost Dry
Message-ID: <Pine.SUN.3.91.960326200932.5292F-100000@diamond.sierra.net>

To Andy or anyone else looking for a BCB xmtr,
The newsgroup rec.radio.broadcasting is the place to look for used
xmtrs. That group is where the bcst professionals hang out (engineers,
DJs, and station managers).

Jeff NH6IL\7

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: n6nae@ix.netcom.com (Richard Humphrey)
Subject: David Packard
Message-ID: <199603270618.WAA13214@ix2.ix.netcom.com>

Dave Packard, co-founder of Hewlett-Packard Company, died today, March
26th. I believe he was 83.

I went out to the garage and looked over the HP gear. I don't think
we'll see anything like that start up again in our lifetimes.
Richard

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: Henry van Cleef <vancleef@bga.com>

Subject: Re: David Packard

Message-ID: <199603270717.BAA19375@zoom.bga.com>

As Richard Humphrey said

>

> Dave Packard, co-founder of Hewlett-Packard Company, died today, March
> 26th. I believe he was 83.

One of the last of the generation of "grandfathers," some of whom were
my mentors.

>

> I went out to the garage and looked over the HP gear. I don't think
> we'll see anything like that start up again in our lifetimes.

>

Why? From a personal standpoint, I enjoy fiddling with the old stuff,
because it is a big nostalgia trip for me----most everything I touch
was "new" in my memory, and I even had a hand designing some of it, or
stuff like it.

I think that for a younger generation---and I mean those in their
twenties or even younger now---putting hands on some of the stuff we
discuss year should be food for thought. There is very little
technology of any sort that survives fifty years and comes back to life
as completely and thoroughly as some of this stuff. Most of it says
"made in USA" on the nameplate. It was designed and built by Americans
who believed in what they were doing.

I have worked with Japanese engineering teams, and got hired to work on
them for very specific reasons. I've also, for that matter, worked
with Italian and German teams, and French as well ("team" isn't a
French thing), and learned from all. But the idea that a group of
Americans can't get together, come up with a first class product, and
get it to market, and do so out of a garage with very modest capital,
hasn't died yet. You can go to college, get lots of degrees, and get
steeped in the "collapse of K-12" and "quality circles" mythologies,
but you can also go out there and be the "responsible engineer" whose
job description is "make it happen."

I've felt for a long time that part of the attraction of forty and
fifty year old technology for younger people is that it comes from a
time when Americans knew they were number one, and didn't suffer from
the current post-Nixon/post-Vietnam anomie (using a very specific
sociological word coined by Emile Durkheim). America-bashing by
Americans has become a very popular sport. I hear young Americans who
are not going to live second rate lives in a third world country, and

one of the reasons I talk in groups like this is to say, no, you don't have to.

The USA of 2050 will talk about the companies and products that start in US garages in the next ten years.

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Michael.J.Knudsen@att.com
Subject: Re: David Packard
Message-ID: <9603271715.AA01304@bock.ih.att.com>

Saw that in the paper this AM. Sad. One thing H-P did was run a summer program where local high school nerds could use their labs to tinker around with stuff. Including Steve Jobs and Wozniak -- now there's another great startup. 73, mike k aa9rg

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: billo@nti.net (Bill Wilson)
Subject: Drake crystals F.S. & AC4 P.S. notes...
Message-ID: <19960327144050298.AAA261@LOCALNAME>

I have the following Drake C-line rocks that I don't need:

38.100 (27.0-27.5)
15.600 (4.5-5.00)
15.100 (4.0-4.5)
13.100 (2.0-2.5)

They are \$7 each postpaid or \$25 for all four.

Some notes on the AC4 power supply that had the exploded fuse holder; The main power cord (not AC line) grommet on the chassis over the years had gotten some "play" in it, you could wiggle it pretty good from side to side (now has been epoxied). It was observed that the blue wire that goes to the fuse holder from the bundle was very tight. It might have frayed over the years since it is a stranded wire and shorted before to the bottom chassis which is VERY close to the fuse holder. I have heard that once a fuse holder has had a couple of blown fuses the bakelite turns into a pretty good resistor from all the carbon.

Also, the main 650 volt terminal strip wires (from the 125 mfd cap; where the white wire connects to the orange wire) were left unsoldered and they were just hanging there! Being that this is a factory built item and not a teenage built Heathkit makes one wonder.

Bill
AC4LC
email: Billo@nti.net

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: "Ray L. Mote" <rmote@rain.org>
Subject: Re: Fair (and Unfair) Pricing
Message-ID: <Pine.SUN.3.91.960326234811.18850D-1000000@coyote.rain.org>

Each time this subject has cropped up in the last few years, it has produced a veritable torrent of posts, substantially reducing the daily S/N ratio. See previous years' messages in the Archives. Yawn.
Ray Mote, W6RIC <rmote@rain.org> REPLIES TO ME, *NOT* THE LIST!!

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Re: FW: NOTICE: BoatAnchors Subscription Ex
Message-ID: <9603271734.AA24676@syseng1.se.melpar.esys.com>

>On Wed, 27 Mar 1996, cgould wrote:
>> Keep Packet Radio Free

>Did he mean Pocket Radios? How could he put a BA in his pocket? And talk
>about unfair pricing - he wants free radios? I just don't understand
>these kids today!

I failed to see the connection between Packet Radio and the BA Group. Transmitting by ham packet over the airwaves is, and no doubt always will be, "free." Using a local digipeater is "free" unless it's a "closed" repeater for members only, but there are plenty of "closed" voice repeaters, too - have been for decades.

Telephone lines, microwave telephone links, commercial satellite links and the like (read: Internet & e-mail connectivity) are *NOT* free, however. Users should be expected to pay, one way or another.

Making the users pay is infinitely fairer than having some

government entity pick up the tab - and then pass it along to everyone, user or not.

In response to your last statement, Jeff - it's called "being spoiled."

73 DE K4MSG

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: cgould <cgould@netrix.com>
Subject: FW: NOTICE: BoatAnchors Subscription Expiring
Message-ID: <31598E47@pcgateway.netrix.com>

Cul Later Folks I won't be a part of something that is going to contribute to the destruction of AMATEUR RADIO in the US.

73

QRT

de N4YXW@N4YXW.#NOVA.VA.USA.NOAM

Keep Packet Radio Free and Save Amateur Radio from Destruction by refusing to pay.

From: List Admin/Owner BoatAnchor Mail List
Subject: NOTICE: BoatAnchors Subscription Expiring
From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: parker@sol.med.ge.com (Timothy Parker x7-4463)
Subject: Re: FW: NOTICE: BoatAnchors Subscription Expiring
Message-ID: <9603271636.AA29975@sargas.med.ge.com>

> Cul Later Folks I won't be a part of something that is going to contribute
> to the destruction of AMATEUR RADIO in the US.
> 73

Ok, have a nice life!

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: lstolz@tekelec.com (Lynn Stolz)
Subject: Re: FW: NOTICE: BoatAnchors Subscription Expiring
Message-ID: <9603271644.AA16720@london.oh.tekelec.com>

> de N4YXW@N4YXW.#NOVA.VA.USA.NOAM

>

> Keep Packet Radio Free and Save Amateur Radio from Destruction by refusing

> to pay.

TANSTAAFL

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Jacqueline Herman <jherman@sierra.net>
Subject: Re: FW: NOTICE: BoatAnchors Subscription Expiring
Message-ID: <Pine.SUN.3.91.960327085348.19719A-100000@diamond.sierra.net>

On Wed, 27 Mar 1996, cgould wrote:
> Keep Packet Radio Free

Did he mean Pocket Radios? How could he put a BA in his pocket? And talk about unfair pricing - he wants free radios? I just don't understand these these kids today!

Jeff NH6IL\7

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: RNickels@smtpmail.micro.honeywell.com (Nickels, Bob)
Subject: Globe manual needed
Message-ID: <1996Mar27.175000.1650.32823@smtpmail.micro.honeywell.com>

I'm looking for a source for the manual (or schematic) for a Globe Trotter transmitter.

I was lucky enough to find one of these rigs, which I suspect has the highest "pound per watt" ratio ever...but need a manual to undo a few "improvements".

Also - does anyone know if the plug-in coils for this transmitter were unique, or perhaps have any available?

Thanks - Bob, KE0T

rnickels@micro.honeywell.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: "Allan Fritsche" <fritsche@msn.com>
Subject: goof-off aand hand cleaners
Message-ID: <UPMAIL03.199603280144270878@msn.com>

Howard and and Mike and the List.

Goof off to remove permanent markers and such have been around along time. Before divesture it was the only thing supplied to the Bell tech's to remove graffitti from pay stations. It was pretty strong back then, so Iam sure whatever you get today is diluted. As far as Howard Weeks comment about hand cleaners. Check the arm rest on your car or truck, drivers side, if about 1 or 2 years old and its a lite color, you will see some grime build up, just from skin oil. Rubb some hand cleaner on and brush lightly and then clean with windex. It difinetly works,.

Thanks Howard for the reminder.

Al

fritsche@msn.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>

Subject: Gotta move. Stuff 4-sale

Message-ID: <Pine.A32.3.91.960327071406.38080A-1000000@violin.aix.calpoly.edu>

Hi gang:

I have just received notice from my landlord that I have to move. I'm nearly "anchored" (pun intended) with some BA equipment that otherwise I would rather keep (sniff). Hence, the following:

National NC-270. Excellent cosmetic shape. In "Cosmic Blue" with matching speaker and manual copy. \$175 plus shipping.

Hammarlund HQ-110A with matching speaker,manual, and Telecron 24-hour clock. Excellent condition. \$185 plus shipping.

Hammarlund SP-200 with matching black wrinkle speaker. Cabinet has been refinished black wrinkle powder coat. Front panel excellent. With power supply. \$300 plus shipping.

Collins TCS xmtr. Original manual, power cable, dynamoter, and spare parts unit. Unit has been refinished and new hardware installed on front panel. Slight dent on edge of front panel. Handles finished (like original) in gloss black powdercoat. Has all shock mounts and mounting plate. \$150 plus shipping.

Hammarlund speaker (in Hammarlund grey). Good condition. Looks like speaker that goes with HQ-129. \$65 plus shipping.

Thanks and 73's. Cal.

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: Allen Tucholski <allent@en.com>

Subject: Heathkit "Capaci - Tester" forsale

Message-ID: <199603270304.WAA25818@en.com>

Near new condition Heathkit "Capaci - Tester" for sale. Has the 1629 Eye tube (nice and bright)

This little compact unit checks for "shorts" and "opens" . Model IT-22 with test leads.

A nice piece of test equipment to add to your collection.

\$25 plus shipping.

Allen

NASA Lewis Research Center
Cleveland, Ohio

e-mail
allent@en.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996

From: Michael.J.Knudsen@att.com

Subject: HQ-170/180 Alignment

Message-ID: <9603271916.AA01399@bock.ih.att.com>

Based on Grant Y's postings and some more fooling around, I may have some insights into some special alignment problems with the HQ-170 and HQ-180. My symptoms include center-freq shift in different BW settings, and asymmetric response and off-center peaks in the 2 and 3 KC wide AM modes.

Selectivity in these fine sets is a cascade of 3 filters: the 3035 KC xtal after the 1st mixer, the 455 KC IF stages, and the "official" selectivities of the 60-KC IF. (Only on the top two bands, above 40m, do you get the 3035 xtal, but on the low four bands you get an extra 455 resonance).

Proper alignment requires that the peaks *and shoulders* of all three items line up right. If the 60 KC IF strip is aligned right, but it ends up on the downslope of one side of the 3035 and 455 stages, you will get a very lopsided response, and less than peak performance in the narrow CW mode.

How many degrees of freedom do we have here? Enough to hang ourselves? Imagine two railroad crews laying tracks from opposite directions -- will the rails line up when they meet?

The one place we have some freedom is the Vernier Tuning control that gives +/- 3KC of choice in knocking the 455 KC down to 60.

The manual's alignment procedure is (rightly) aimed at touching up a set that is only slightly off. Mine was already working pretty well, but the final IF was at 56 not 60 KC. Probably due to the 3035 rock being really 3032, and the 2nd conversion rock being a KC or two high, so the 455 IF really HAS TO be 451 - 452 range. I think a previous owner compensated by aligning the last IF low.

The manual procedure will in fact get the center peaks more or less lined up, but only in the 500-Hz CW mode, which is too narrow to guarantee that the three response shapes really overlap correctly at their shoulders and skirts.

==> Here's a simple test anyone can run tonite on their 170/180: Turn on the Cal and tune in a harmonic of it in narrow CW mode (LSB, 0.5 KC), with the Vernier at high noon (zero). Carefull tune your Main or BS for peak reading and note the exact S-meter value.

Now set the Vernier to +1, repeat the peaking, note the S-meter. Repeat at +2, +3, then do the minus 1, 2, and 3.

If you plot these 7 readings left to right, you should get a picture of the 3035 and 455 IF responses. If it's nicely rounded and peaked in the middle, congrats on your nice radio. I expect mine to be ragged and tilted (like my pinball machines). To see just the 455 KC contribution, use a lower band, but use the top two bands to include the 3035 rock.

Think of this as a slow sweep generator. I don't know yet how to translate what you see into what to re-align, but it should be "fun." Maybe the best thing is to screw the S-meter, set your sig gen for 1000 Hz or higher AM modulation, and peak for best sound, using the BROADEST or maybe 2 KC Both sidebands AM mode. Maybe even align on the white noise as one member swears by.

The real bottom line seems to be: Align a radio in the mode you intend to use it. The HQ-180 manual procedure is aimed at CW, period. I say align for AM and SSB, and the CW will take care of itself, being the least critical about response shape. (But do align the 60 KC strip for CW; that's how it's designed).
73, mike k aa9rg

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Gordon Smith <glsmith@holli.com>

Subject: ht37 and nc303

Message-ID: <199603272131.CAA13542@sawdust.holli.com>

Well, I'm now the proud, new(est) owner of this old pair of work horses. The units need cleaning, and some TLC, but they don't look too bad. I have a question about the HT37. First, I was surprised to see the cabinet was painted black. I expected Hallicrafter's gray. Second, the power transformer and rectifier tubes were missing from the chassis. Lo and behold, there was an external speaker/power supply enclosure (also painted shiny black). This was a surprise since the copy of the manual I saw made no reference to this external device. I am assuming the external power supply uses solid state rectifiers, since I don't see any tubes in it. Can anyone help with a copy of the schematic (at least the Cinch-Jones plug pinout)? This should be fun to get the 7 years-of-garage-storage smell out of these radios. Now to hit the boatanchors archives for info.....73 de WA9SLU
glsmith@holli.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996

From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>

Subject: Re: ht37 and nc303

Message-ID: <199603280259.UAA24409@dlep1.itg.ti.com>

At 08:33 PM 3/27/96 -0600, Gordon Smith wrote:

>... I have a

>question about the HT37. First, I was surprised to see the cabinet was
>painted black. I expected Hallicrafter's gray. Second, the power
>transformer and rectifier tubes were missing from the chassis. Lo and
>behold, there was an external speaker/power supply enclosure (also painted
>shiny black). This was a surprise since the copy of the manual I saw made
>no reference to this external device.

Gene, I would guess that what you have is an HT-37 whose internal power transformer died an unfortunate death many years ago. The original HT-37 power transformers were the achilles heel of the HT-37's. Apparently, repowering an HT-37 after momentarily shutting power off precipitated catastrophic transformer failure.

It sounds like someone did a first class job in converting to an external power supply for yours, but you may have to trace the wiring to figure out what goes where. Have fun...

You're not likely to regret fixing it up, though. Not many rigs can compare with the audio quality of the HT-37.

Regards,

Bill Sorsby, N5BU

bill.sorsby@dlep1.itg.ti.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996

From: New User <beadgal@ptialaska.net>

Subject: Re:HT37/NC303

Message-ID: <01BB1C11.BEE63400@juneau_02.dialups.ptialaska.net>

Hi Gorden and Halli-head-scratchers-

Wow! Have you got a unique rig or what!

The original HT-37 had only an 'octal' type 11 pin socket;

pin 1 gnd to rcvr

2 vox relay normally open contact

3 vox relay pole

4 vox relay normally open

5 second group of vox relay contact normally open

6 vox relay (receive-open circuit, transmit ground

7vox relay (receive gnd, transmit open circuit

8 key hot if not using front panel key jack

9 second group vox relay pole

10" "normally closed

11rcvr audio output (anti-trip audio sample)

Yes, you are going to need a copy of this manual-its about 38 pages.

Send me your snail address.

There are 'station-control diagrams' which do make sense of above,

but you better start looking for a Dow-key or old open-frame T-R switch.

The manual isn't going to help much with the Jones plug which was added =
by

whoever removed the power transformer and built the external supply, but =
at least you can see if it is wired right into the original chassis.

Mine has original tranny, but it must have been a problem with many =
others.

More fun-

Don't follow the original alinement/alignment instructions for the Nat =
303

(I can send correct one from ER)! or you will be in same box as the guy =
struggling with his HQ-170. Both NC-303 and HQ-170 procs are goofy.

Do follow the Ht-37 manual procedure for RF and phasing adjust *but only =
with

a receiver that is properly aligned* (ricebox, aaarrrrrgghhhh) not a =
vintage

double/triple flip with one of the L.O.s running on an image! Or your =
wonderful

phase mod rig will sound like mine did the first time (someone on =

bushnet said
it was like 'a trio of flute players playing under water') Its more =
bestest now.
send your snail-mail for manual on Ht. I don't think I have a -303 since =
my radio is a-300.
Jim Dillon WL7CMQ beadgal@ptialaska.net

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "TOM N LAIRD 5-5777" <TL39597@deere.com>
Subject: Include ur address
Message-ID: <DACDXX21.TL39597.372707140096087FDACDXX21@TCP30.DX.DEERE.COM>

Date: 03/27/96
From: TOM N LAIRD 5-5777
To:
Subject: Include ur address

TL39597 - DACDXX21
INTERNET - DACDXE01

Hey BA listers,
please include your e-mail address in the body of your listing.
especially if you want a reply (i.e. FOR SALE or WTB). Some servers seem to
strip headers. I missed a piece of equipment that was for sale because of no
return address or phone number.

Tnx, Tom Laird WC9M Moline, Il
tl39597@deere.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: kenc@smartdocs.com (Ken Corwin)
Subject: Internet Mail Delays?
Message-ID: <199603270421.UAA16506@warp10.smartlink.net>

Hello, All-

I've read here with wonderment recently of tales about offers being made on
equipment before the posting of the item's availability appears. I
subscribe to the Boatanchors Digest and this morning, 3-26, I received
BOATANCHORS DIGEST 553 which originated 6:16 p.m. CST 3-25 at theporch. No
big deal except that DIGESTS 554, 555, 556, 557, 558, 559, and 560, were
already on hand by 3-25. 552 is still out "there" somewhere.

Still looking for high serial numbers on BC-224 and BC-348 receivers. Also,

it's beginning to look as if Bill Strangfeld has the only BC-224-A in existence.

Kind regards,

Ken Corwin (kenc@smartdocs.com)

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "Terry O'Laughlin, RM:7135, #:6-6667" <OLAUGHLIN@vilas.uwex.edu>
Subject: Johnson 122 for sale again
Message-ID: <MAILQUEUE-101.960327122046.640@vilas.uwex.edu>

The server here at work has been flaky for about three weeks. The previous buyer for the Johnson 122 VFO and original manual thought I was blowing him off because he couldn't reach me via e-mail. He found another 122, so I still have one for sale. One more time:

E.F Johnson 122 VFO, good condition, all original with original manual. \$35 plus shipping.

Be patient. I'm not sure all the bugs are out of our server. I will confirm all correspondence that I receive.

73 Terry O' WB9GVB

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: n6nae@ix.netcom.com (Richard Humphrey)
Subject: RE: Kid built Heathkits
Message-ID: <199603270615.WAA21062@dfw-ix8.ix.netcom.com>

Not every piece of factory built Heath gear worked, either. A company I worked for bought a factory assembled Heath "Most Accurate Clock". It was DOA. Cold solder joint in the receiver killed 15MHz reception. Two big shorts on the logic PCB screwed up the operation of the control switches on the bottom. I think the audio decoder was deaf too. It was pretty obvious that they had never tested this thing before shipping it. I doubt they even plugged it in. We repaired the bugs and got it working, but its performance was really crappy and we ended up tossing it in the dumpster.

Richard
N6NAE@ix.netcom.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: Henry van Cleef <vancleef@bga.com>
Subject: Re: Kid Built Heathkits
Message-ID: <199603270652.AAA17523@zoom.bga.com>

As Michael.J.Knudsen@att.com said

>

> I know the quality of my kit building work improved with age.
> I wouldn't buy back my 10th-grade DX-40 and R-100, but I'd challenge Hank
> to do a nicer job than I put into my grad-school TR-106. And the
> parenthood-era Heath GR-2000 TV needed no error fixes other than to
> swap a couple of misplaced transistors (well there, I was grateful for the
> sockets).

Hmm yass, Heathkits. I recall buying and building a jen you wine VTVM of theirs about 1949---think it cost me \$24.95. I also built one of their early O'scopes, with round face CRT and sine wave sweep, jes like an RCA 158. Nothing fabulous as scopes go, but I think they only charged \$43 for the kit or something like that, and for that you got a chassis, a CRT, a twin power supply with a 2X2 to make the green worm appear, and enough horizontal and vertical parts to make it work. I think it competed headon with the 3 inch "suitcase" WE scope that I had liberated from somewhere right after the war---dunno where I got it, and now that I am older and wiser, I've got a hunch that it may have been "hot." Those were the only Heathkits I built until much later. I recall all the good things about the Heath Williamson amplifiers, and considered buying one. But I had a 1940 PA amplifier that had been converted to class A operation with its 6L6's and gotten a decent output transformer that I used, along with a big (15 inch plus tweeter) Jensen bass reflex speaker and some phonos and a wire recorder to do dance DJ stuff---one of my first real attempts at serious design, and it worked reasonably well.

Finally, we get to the year 1960, and I have forgotten the exact sequency of events, but ended up going to Benton Harbor for a job interview with them. I also had it in mind to see about doing something about getting with the program and getting two Williamsons as the basis for a stereo system. The job interview was pleasant, and after some "oh by the way" conversations, I somehow got convinced to take, instead of Williamsons, their newest latest and greatest stereo all-in-one amplifier instead. This sucker used a GZ34 rectifier for lotsa volts, some 12AX7s driving a 7199 pentode-triode as a voltage amplifier and phase splitter, and two 7591's for output. Lotsa watts, lotsa specs, lotsa fi, etc. I worked for a couple of weeks putting that sucker together very neatly. Plugged it in, turned the switch, and as soon as that 5AR4 got hot, the fuse blew. After some sturm und drang with ohmmeters and voltmeters, I found the arcing insulation in one of the output transformers from the outside. Heath replaced it for no. Flipped the power switch again, but all the parts fell out of the

switch. I rounded up a nice ball handle toggle switch for test, and put the parts of the Heath switch in escrow. One side worked, the other didn't. Some scoping showed that the signal was vanishing inside a gain pot between the preamp and the output amp on the dead side. Out came the pot, put it in escrow, and simply cliplead across it for test. Output, le voila! I hooked a tape recorder with some pipe organ music I had recorded (an acid test for anything claiming "fidelity"), and let 'er rip. E. Power Biggs punching the buttons on the nice new Flentrop tracker at the Harvard Germanic (Busch-Reisinger museum), which I had been around, and recorded (as well as played). I think we got through the fourth cornball variation on "America" when the sound got funny, and I looked at the amp to see four 7591 plates glowing red as the fuse blew. I mentioned this to the Chief Engineer of the outfit I was working for, who suggested that it was time to do a design review of the box.

To summarize, that box was chock full of design problems. The 7591's were run fixed bias, with 470K grid leaks. The tube sheets said 100K in the grid max on fixed bias. It said to make sure the two screen leads were tied together at the socket. Second screen pin was NC on all four sockets. This was the first time I'd ever seen grid current thermal runaway on vacuum tubes, and I didn't know what it was until the Chief Engineer suggested that I monitor grid currents. I worked out a set of fixes to get the box working, and engaged in some serious pen pal activities with Heath, who did manage to furnish a new power switch and pot. I didn't get to first base with the idea of trading the thing, complete with ECO information needed to get it stable, for a couple of Williamsons. I've forgotten whether the whole unit got shipped to Benton Harbor or not, but I recall some testy correspondence about "I was only one who had that problem and my engineering review didn't have the correct data from the tube manufacturers" and what grew to be a fairly fat file of love letters on the subject of prepackaged electronic junk. As I recall, I traded the thing off for a couple of used Bogen DB20's after I'd had it about a year, and so far as jobs go, ended up at Tektronix. Those Bogen amps, after they had been refitted with genuine fixed bias rectifiers and all the preamp heaters were DC, and given some 6146's, were my "serious audio" until 1980, and were still working away when I gave them away around 1983. So far as Heathkits go, I had that file for years, and if I got the urge to tangle with another one, took a look at the file.

>

> And I did suffer "kit fever" a few times in my life -- going thru Heath
> and Knight catalogs looking for *something* to build, just for the thrill
> of doing it. Maybe a good reason for tearing an old BA down to the
> bandswitch wafers is to enjoy the feel of putting it all together again,
> and getting it RIGHT. Hank?

Well, Mike, I dunno. I did, over the years, come up with a fair amount

of scratchbuilt stuff, and worked for places that had prototype shops, so could get holes punched, metal bent, and panels etched if I did the artwork at home. I don't think I've ever had a store-bought FM stereo receiver. Indeed, the remaining parts of the Meissner Signal Shifter parts unit may turn into a tuner---I've got some caps and a drive for them, and a little creative coil winding, drilling, and store bought stuff, plus some ceramic strips purloined from derelict Tek plugins might make a nice project.

Much as I groused about that Heath amplifier, it certainly taught me not to take somebody else's design at face value---and not to get too NIH (not invented here) about the perfection of my own.

Tearing down the RME-45, and later, making one good Signal Shifter out of two parts units, produced "brand new" boxes with "brand new" performance---in both cases, better than original, according to published specs. The project that Ben Hall has right now, building up an SX-25 from a pile of parts, is a lot of work, and I learned a lot of things from letting some old-timers look over my shoulder in the early days, and realize now just how right they were. I probably do tackle some things that depend on my having been around a while to complete successfully. And if you've read my recent posting on the HP200CD, you can see that I can get quite thoroughly foxed, even so.

>

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Jacqueline Herman <jherman@sierra.net>
Subject: RE: Kid built Heathkits
Message-ID: <Pine.SUN.3.91.960327072006.12164F-1000000@diamond.sierra.net>

> Not every piece of factory built Heath gear worked, either. A company
> I worked for bought a factory assembled Heath "Most Accurate Clock".
> It was DOA. Cold solder joint in the receiver killed 15MHz reception.
> Two big shorts on the logic PCB screwed up the operation of the control
> ...

This sounds like it was built by one of their 13-year-old summer interns. The kids used to get to build the easier-to-construct kits.

One wonders why your company didn't return it for an adult-built version?

Jeff NH6IL\7

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: TEK0CH@aol.com
Subject: Re: Kid built Heathkits
Message-ID: <960327181002_179593341@emout08.mail.aol.com>

I think we have heard enough about bad deals with broadcast transmitters, Kid built Heathkits and Techtronics equipment. Get a life !

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: aevang@cris.com (alevangelista)
Subject: Re: Kid built Heathkits
Message-ID: <199603280049.TAA21068@franklin-fddi.cris.com>

>I think we have heard enough about bad deals with broadcast transmitters,
>Kid built Heathkits and Techtronics equipment. Get a life !

IMHO The diversity of experience (as well as *opinion*) is part of what makes BA enjoyable. A simple solution to this concern is to ignore posts which do not match your current interests and allow Jack to continue to work behind the scenes at keeping the discussion on topic.

Cheers, Al

Tek..?

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: "Benjamin D. Hall" <bdhall@ghgcorp.com>
Subject: Re: Kid built Heathkits
Message-ID: <3159E8B9.4D49@ghgcorp.com>

alevangelista wrote:

> IMHO The diversity of experience (as well as *opinion*) is part of
> what makes BA enjoyable. A simple solution to this concern is to
> ignore posts which do not match your current interests and allow
> Jack to continue to work behind the scenes at keeping the discussion
> on topic.

Hear, hear!

One of the things that makes BA's so enjoyable is the amount of personal creativity you can put into them. My SX-24 is going to be like no one else's, and that makes it special to me. It is my baby, my child.

Therefore, in such a creative and individualized hobby, you got to learn to give others leeway in the pursuit of what they like. If you don't like the way someone does their BA, or the way they write their messages, or what they write about, ignore it. I, for one, really enjoyed the Heathkit threads.

73,

Ben

--

```
=====
+           Benjamin D. Hall, Houston Texas           +
+ BDHall@GHGCorp.com   BHall@GP802.JSC.NASA.gov   +
=====
```

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: kilgore@dev.tivoli.com (Jeff Kilgore)

Subject: Re: Kid-built Heathkits

Message-ID: <9603271543.AA12298@wichita.tivoli.com>

I built my share of Heathkits in my younger days, although I didn't get into electronics until 1970, when I was in junior high school. Among others, I built an HW-16, an HW-202, a color tv, and many accessories and pieces of test equipment. I sure miss the stuff, and suspect I would enjoy it even more now. I was always anxious to get the thing working. Not that I didn't take the time to do it right, and they always worked well, but I think I could savor the expericience even more now.

Actually, I owe a large debt of gratitude to Heathkit. The postman misdelivered a Heathkit catalog to our house instead of our neighbor's house, and I got hold of it. To this day, I very clearly remember idly paging through it and then spotting the ham radio equipment. I had never heard of ham radio before, but I quickly realized that you could talk all over the world with the stuff, and I was bitten hard by the bug. I told my dad about it that evening, and he disappeared into the attic for about half an hour. When he returned, he had an armload of books about ham radio from 1958. Turns out he had been studying for his license, but then I came along and he never got around to getting it. (He finally did get his license in the late '80s when he retired.) He indulged me with many Heathkits as time went on. I particularly remember getting a Heathkit VTVM (was it the IM-18, or IM-28? I can't remember, although I still have it) for Christmas. I promptly built it and had it working that evening. I was quite pleased with it and with myself, but I think he must have felt guilty about giving me a Heathkit that only took one day to build. A few days later, he came home with the HW-16.

Yes, I certainly miss those days.

73,
Jeff Kilgore, KC1MK

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: robert fowle <hammarlund@voyager.net>
Subject: looking for key & code osc.
Message-ID: <199603271251.HAA16540@vixa.voyager.net>

i gonna try the code again, and am in need of:

- A. key or paddles
- B. code practice oscillator

if you have either for sale or trade, please drop me a line.

thanks in advance.]

=====]-[->
Robert Fowle
The HAMMARLUND Historian
Ph. voice or fax 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail at: hammarlund@vixa.voyager.net
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
=====]-[->

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Sandy Blaize <70401.134@compuserve.com>
Subject: Loose and jittery Coils
Message-ID: <960327064615_70401.134_IHD67-4@CompuServe.COM>

Best "fix" I have found on slug tuned forms is the thin rubber band trick! (Between the slug and insdie of the form) The Brits commonly used this on some of their sets.

If you use wax, the best wax is bee's wax! Most old paper tubular capacitors have this on them. Tandy leather company sells small cakes of it. Why beeswax instead of 'candle wax'? Candle wax is paraffin, mostly. It melts at a very low temperature. When your BA receiver heats up, it will get very soft

and possibly melt. Beeswax won't! It takes just a drop or two. A hot small soldering iron pointed downward towards the core and the wax touched to

the hot iron barrel flowing down and into the coil form. Later, when you have to loosen up the slug again, use a tiny pencil iron, or a piece of #12 tinned copper wire extension wrapped around a 'regular' iron poked into the form enough to touch the slug and heat it up enough to melt the wax. Use just a little wax! Just enough to lock the slug or keep it from wiggling!

Another "use" for beeswax is in "insulating" homebrewed open wire line spreaders. I have made spreaders out of scrap maple. After the notches and holes are made, soak the spreaders in HOT molten beeswax for a while. Fish the out and hang the up on a 'clothesline' with some Christmas tree ornament hooks. The result will be a very long lasting spreader that's cheap and will resist the ingress of moisture. The beeswax won't melt in the hot sun during summer.

Have fun.

73,

Sandy W5TVW

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: Walt Novinger <waltn@hooked.net>

Subject: Re: Magic marker on cabinets

Message-ID: <3159FE45.18E5@hooked.net>

KC5IJD@aol.com wrote:

>

> I have a couple of pieces of Heath test equipment which I am in the
> process of restoring. They all have magic marker writing on the cabinets.

>

> Any suggestions as to how to get this off without ruining the paint?

>

> 72

>

> Joseph W Pinner

> Lafayette, LA

> KC5IJD

> EMail: kc5ijd@aol.com Get a bottle of Goof Off and follow the directions. I
cleaned a Heath

wrinkle finish cabinet of heavy black MM and it came *completely* off
with absolutely no damage to the paint. Picked the Goof Off up at the
local hardware store. Of course, YMMV.

Walt

--

=====

Walt Novinger	Real Radios Keep You Warm At Night!
Collector of hollowstate communications receivers and test equipment	
waltn@hooked.net	wnovinger@shl.com
	CI\$: 73348,2015
http://www.hooked.net/users/waltn	

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Michael.J.Knudsen@att.com
Subject: Re: Magic marker on cabinets
Message-ID: <9603271836.AA01379@bock.ih.att.com>

I've recommended Goof-Off myself in the past.
Great for getting off the dried-out goo from tape
(masking, duct, scotch).

But keep in mind -- this stuff evaporates very quickly,
so be sure to wipe off the wet residue with another rag fast.

It's a powerful solvent -- takes the skin oils right out of your fingertips
and leaves them frosty white. And smells like it would love to
do to your liver what it just did to the goo.

Some tape residues, G0of-Off doesn't really remove them but smears them
around in a weakened form that you can easily removed with plain old
WIndex or whatever. 73, mike k aa9rg

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Moroccan thieves & Islamic Law
Message-ID: <9603271609.AA23242@syseng1.se.melpar.esys.com>

>Under Islamic law, if these folks were caught, wouldn't they be
liable to
>lose a left hand? Cal.

Actually, it's the *RIGHT* hand which is supposed to be
detached as a punishment for stealing. This is akin to a "death
sentence" for a faithful follower of Islam because they are
supposed to touch food with *ONLY* the right hand, reserving the
left for - well, performing another necessary function.

The problem, of course, was catching them in the first

place. They were so clever and innovative that it lent credence to the argument that more severe punishments, rather than acting as deterrents, simply makes for more creative criminals.

Paul

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: spr@earthlink.net (Scott Robinson)
Subject: Re: My First BA - Scott SLRM
Message-ID: <v01530503ad7e844975b5@[153.37.85.89]>

>Does anyone out there have details on the Scott SLR series of receivers?
>Did the SLRM have a Navy radio designator? If not, why not? Were Scotts
>strictly used for entertainment receivers, or were they used also for
>communications? Who was responsible for their outstanding mechanical
>design? Does SLR stand for "Super Low Radiation"?
>

In the book, E. H. Scott, The Dean of DX by Marvin Hobbs, these receivers are described, and their objective was to hear without being heard. They were called "morale receivers" and used to hear news, ball games, etc. from home without giving away the ship's position.

It's a good book and worth reading. I thin Antique Electronic Supply (602) 820-5411 has it.

Scott Robinson
spr@earthlink.net

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: dlkerl@elvis.b11.ingr.com (Dan Kerl)
Subject: Re: My First BA - Scott SLRM
Message-ID: <199603271902.AA03976@elvis.b11.ingr.com>

> The E. H. Scott SLRM was my first true short wave receiver. It was given to me by my grandfather, Arthur J. Contant, of Ardsley, NY, on Thanksgiving, 1964. It was originally purchased from the Scott showrooms in NYC by his brother, who was a bachelor and lived with my mother's family, in 1945. Uncle Joe bought it as a replacement for a pre-war Scott console set. It came with
> a Hallicrafters speaker, the kind you usually see with an SX-28. My great uncle was never really satisfied with the SLRM as a broadcast receiver, and after

it quit working in the late forties, he lost interest in it.

>

> My grandfather gave it to me when I was 12, and just starting to show interest in radio. I learned alot fixing it. I still have it and it still works.

>

> Does anyone out there have details on the Scott SLR series of receivers?

> Did the SLRM have a Navy radio designator? If not, why not? Were Scotts

> strictly used for entertainment receivers, or were they used also for communications? Who was responsible for their outstanding mechanical design? Does SLR stand for "Super Low Radiation"?

The SLR radio produced for the Navy used the designation RBO. The SLR series was used primarily by the merchant marine.

I enjoy listening to shortwave broadcasts and clear-channel AM on an SLR-12B.

Dan Kerl
dlkerl@ingr.com

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: jerry_kovacs@om.cv.hp.com

Subject: Naked Vacuum Tubes in Space

Message-ID: <H00016600f7d62c5@MHS>

Item Subject: Text_1

Ben,

When tubes are manufactured, great pains are taken to remove air from the glass and all the inner tube structure. Most of the challenge in this endeavor is focused on removal of gas adhered to and absorbed by all the tube surfaces.

The actual removal of static volumetric air molecules can be done relatively easy with special pumping systems, but it is this "surface" gas that needs to be removed by "baking" the tube while pumping on it. It is one of the last steps. While "baking" the tube, the lowering pressure is monitored to confirm when this tenacious surface gas has been removed. The tube is then sealed off.

As a last precaution to insure the vacuum inside the tube stays good, an active metal is flashed (evaporated) from inside the tube onto the glass and part of the structure. This is the bright silvery looking film we see inside. This film is called a getter and it will combine chemically with the few last "active" gas molecules, those capable of reacting chemically with the structures inside. This getter will continue to "pump" these gasses over the life of the tube.

In deep space the vacuum is very good. It is good provided there is no spacecraft near where this measurement could theoretically be taken. Anything drifting in space is surrounded by a cloud of gas molecules given off by the craft. (What was the "beautiful sight" that stayed with the moon mission spacecraft and was always commented on by the astronauts?) Also, small leaks and not so small leaks are inevitable on a spacecraft.

Just breaking off the tube glass envelope and running the tube naked within these realities, would no doubt be a compromise to the vacuum developed in the unbroken tube. As a practical Shuttle or other spacecraft experiment of just opening a special closed volume port to the outside of space and measuring the vacuum would be a disappointment. The residual gas left behind would just hang around limiting the ultimate vacuum.

So we would still be faced with new and different problems to deal with in obtaining a usable tube vacuum under practical space conditions.

For discussions on vacuum techniques and material science, find the book: "Physics and Chemistry of Electronic Technology" by -Van Veltzer

Sorry, I just had to get this off my chest!!

Jerry j_kovacs@om.cv.hp.com
(an old vacuum tech)

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Kevin Pease <hamradio@mm1001.theporch.com>
Subject: Re: Naked Vacuum Tubes in Space
Message-ID: <Pine.LNX.3.91.960327195309.3334B-1000000@mm1001.theporch.com>

On Wed, 27 Mar 1996 jerry_kovacs@om.cv.hp.com wrote:

> As a last precaution to insure the vacuum inside the tube stays good,
> an active metal is flashed (evaporated) from inside the tube onto the
> glass and part of the structure. This is the bright silvery looking
> film we see inside. This film is called a getter and it will combine

What is the chemical composition of the getter? Is it what makes that awful odor when a tube is broken and air let in ?

Kevin Pease
mm1001.theporch.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: National emblem sought
Message-ID: <Pine.ULT.3.91.960327122929.6467F-1000000@admin.aurora.edu>

I am looking for a National emblem, which is a small diamond shaped thing with "NC" on it. This is for a early (1930's - 40's) speaker.

E-mail broehrig@admin.aurora.edu

73 de Bob, K9EUI

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: robert fowle <hammarlund@voyager.net>
Subject: need 800# for
Message-ID: <199603271958.0AA25302@vixa.voyager.net>

would like the 800 number to call fcc and check on license info.
can anybody help?

=====]-[->

Robert Fowle
The HAMMARLUND Historian
Ph. voice or fax 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail at: hammarlund@vixa.voyager.net
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT

=====]-[->

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Dave Heil <K8MN@clinet.fi>
Subject: Need Signal Slicer Hookup Info
Message-ID: <199603271722.TAA09475@hauki.clinet.fi>

If anyone can provide CE Signal Slicer (Model A) hookup info, I'd greatly appreciate it. A photocopied manual would be great and I'd be happy to reimburse copying/postage costs.

Thanks and 73,

Dave Heil OH2/K8MN
downtown Helsinki
k8mn@clinet.fi

Dave Heil OH2/K8MN
Helsinki, Finland
k8mn@clinet.fi

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Neal McEwen <nmcewen@metronet.com>
Subject: Old Keys for Sale
Message-ID: <199603271840.AA06071@metronet.com>

Take a look at http://fohnix.metronet.com/~nmcewen/box_of_keys.html

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: k1zat@dsport.com
Subject: Packard of H-W Packard
Message-ID: <Pine.SOL.3.91.960327205530.22057A-1000000@puff>

Someone mentioned that David Packard, co-founder of Hewlett and Packard passed on. Lots of the things that HP made can fall in the boatanchors classification now. Here's=20 his obit.

FROM THE WASHINGTON POST, 27 MARCH 1996.

By Bart Barnes
Washington Post Staff Writer

David Packard, 83, a California who helped launch the Silicon Valley high technology industry with the founding of Hewlett-Packard Co. more 55 years ago, died of pneumonia yesterday day at Stanford University Hospital in Palo Alto, Calif.

Mr. Packard also was deputy secretary of defense during the first three years of the Nixon administration, a role in which he developed a reputation for candor and independent thinking and a tendency to challenge political influence on defense decisions.

With a Stanford University classmate William R. Hewlett, Mr. Packard began the company that became Hewlett-Packard electronics giant in a one-car garage in Palo Alto in 1938. On a capital investment of \$538, the two men created a business with 100,000 employees and revenue of \$31 billion last year.

Their style of management, which Mr. Packard liked to call "management by objective, rather than by directive," encouraged employees to work toward common goals by giving them a wide range of freedom in which to operate. Under the system which became known as the "the HP Way," Hewlett-Packard became Silicon Valley's largest employer and an international manufacturer of measurement and computation products and systems for industry, business, engineering, science, medicine and education.

Mr. Packard was chief executive officer and chairman of the board when he left the company in 1969 to become deputy secretary of defense under Secretary Melvin R. Laird in the first Nixon administration.

That appointment sparked an immediate controversy since Mr. Packard was then at the helm of a company doing \$100 million a year in defense-related business and he was moving into a job as director of day-to-day operations at the Pentagon.

Writing in The Washington Post, Adam Yarmolinsky, a professor at Harvard Law School and former Defense official argued that "men who have made a career in defense industry are likely to be less sensitive to controlling the expansionist tendencies of the establishment".

To defuse conflict-of-interest criticism, Mr. Packard placed nearly \$300 million worth of Hewlett-Packard shares into a trust with the annual income of nearly \$700,000 from those shares to be distributed to various charitable and education institutions.

At the Pentagon, Mr. Packard spent much of his time and energy reforming costly procurement and management practices, and he played a major role in implementing the Nixon administration's policy of turning over responsibility for conduct of the war in Vietnam to Vietnamese forces.

While Laird concentrated primarily on winning the Pentagon battles on Capitol Hill, Mr. Packard managed the Defense Department, clashing at times with other Nixon administration officials. He won an argument with the Office of Management and Budget, which had resisted his decision to move ahead with

development of the supersonic B-1 bomber. But he lost an argument with Treasury Secretary John B. Connally Jr. when he tried to implement scheduled military pay increases despite the imposition of Nixon's 1971 wage-price freeze.

Resigning to return to California and Hewlett-Packard in 1971, Mr. Packard was praised in a "Dear Dave" letter from Laird as "the best thing that has happened to the Department of Defense since it was established."

Mr. Packard was born in Pueblo, Colo. In 1934, he graduated Phi Beta Kappa from Stanford, where he also played on the football and basketball teams. A hulking athlete at 6 feet 4 inches and 250 pounds, he was a rugged outdoorsman and his avocations included hunting, fishing and ranching.

From 1936 to 1938 he was an engineer with General Electric in Schenectady, N.Y., then returned to Palo Alto where he formed Hewlett-Packard with his old Stanford classmate. They flipped a coin to determine whose name would be first.

Their first success was an audio oscillator device to test sound equipment. The Walt Disney Co. bought eight for the film "Fantasia," at \$71.50 each. In their first year they grossed \$5,369 and made a profit of \$1,653.

After World War II, the company grew rapidly, expanding from electronic and scientific instruments to calculators and computers. Hewlett concentrated on engineering and Mr. Packard took crew of management and administration. When they incorporated in 1947, Mr. Packard became president. At that point annual sales were \$679,000 and there were 111 employees.

Throughout this stewardship of the company, Mr. Packard insisted on allocating a hefty part of the profits to research and development of new and improved products.

"It is always possible to improve profits for a time by reducing the level of our investment in a new-product design and engineering, in customer service or in new buildings and equipment," he wrote in a 1995 book, "The HP Way." "...But in the long run we will pay a severe price for overlooking any of these areas ... Good new products are the lifeblood of technical companies such as ours, although our business levels vary from year to year."

By 1958, the company had sales of \$30 million and 1,778 employees and it had acquired a company that produced high-quality recorders. In subsequent years it would expand overseas and

acquire more companies.

In 1978, Mr. Packard retired from active management of Hewlett-Packard, but he remained the chairman until 1993, when he became chairman emeritus.

Even in retirement he remained an attentive manager. In 1990, worried that the company they had founded was becoming excessively bureaucratic, Mr. Packard and Hewlett, who also had been retired, returned to the business and help orchestrate a reorganization, then returned to retirement.

Although one of the richest men in America, with a fortune estimated at \$2 billion, Mr. Packard lived modestly. He put the bulk of his wealth into a foundation that has given tens of millions of dollars to Stanford, the Monterey Bay Aquarium and other causes. When he left Washington after resigning as deputy secretary of defense, he gave \$2.2 million in stock to the Wolf Trap Foundation.

His wife, Lucile Laura Salter Packard, died in 1987.

Survivors include four children, Nancy Ann, Susan, Julie and David Woodley Packard.

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Terry Dobler <kj7f@micron.net>
Subject: Philo Farnsworth Page
Message-ID: <2.2.16.19960327130006.5e4f2856@micron.net>

Greetings,

Here is the home page for the Filo Farnsworth story.
<http://songs.com/noma/philo/index.html>
Long but well worth the read.

Terry
kj7f@micron.net

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: spr@earthlink.net (Scott Robinson)
Subject: Polishing plastic dials
Message-ID: <v01530503ad7fa8f18917@[198.95.1.28]>

Folks,

Antique sells a plastic polishing kit for \$20, and I bought one. I used it on a plastic dial on the top of a Grundig portable on which someone had dribbled lacquer thinner.

The kit consists of a series of graded abrasives, starting at 1200 grit or thereabouts and going through about six kinds of paper and one liquid, the final step. The results were excellent-no trace of the original damage. I think this is stuff originally sold for aircraft windsheilds, but it works jes' fine and only took me a little over an hour to do.

I doubt it'll fix yellowing, but for scratches and such this is a very good cure, and worth all of the \$20 price.

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "David L. Thompson" <thompson@mindspring.com>
Subject: Power handling capability of RG 8X
Message-ID: <199603272156.QAA01441@borg.mindspring.com>

First, try to get a copy of either the Wire Book from the "Wireman" or the "Reference Manual" from the Radio Works. RG 8X is on page 99 of the Radio Works "Reference manual."

RG-8X .242inches OD 50 ohms about 700 watt power limit. Depends on quality, too. I agree that into a proper 80 meter dipole that MAX power can be run. I ran a Clipperton L with 600 to 700 W out on 10 meters using an 80 meter Loop skywire and a good tuner. Actual SWR was at least 9 to 1. 700 watts seems to be a good figure. With a Henry or Alpha you are probably better off with RG-213 (sames goes for that KW-1 on 20). Globe Kings and 8X go together!!!

Dave K4JRB
thompson@mindspring.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>
Subject: Re: Power Rating of RG-8X Coax
Message-ID: <Pine.A32.3.91.960327112156.55531C-100000@violin.aix.calpoly.edu>

James:

If you ever find out about the power rating, let me know. Cal.

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: Power Rating of RG-8X Coax
Message-ID: <199603271956.NAA11499@dlep1.itg.ti.com>

At 01:23 PM 3/27/96 -0600, Cal Eustaquio wrote:

>James:

>If you ever find out about the power rating, let me know. Cal.

Everytime I've bought RG-8X at Radio Shack I ask about that and the answer the clerks always give is, "It's just like RG-8, only smaller." It's not, of course. I saw data somewhere indicating that it's losses are somewhere between RG-58 and RG-8.

Since power handling capability is related to loss, one could interpolate and assume that RG-8X can handle more power than RG-58 but not as much as RG-8.

I wouldn't put a KW on 10 meters into RG-8X, but I will on 75 meters (if I ever get around to reviving my tired old SB-220) so long as the SWR isn't too high. <He chuckled, not defining "too high".> I've also read about people being able to push a KW into RG-58 cable if VSWR is kept low.

High VSWR and high power are not very compatible. RG-58 is regarded as being able to handle several hundred watts, but about thirty years I ruined an RG-58 cable running a little over 100 watts. I learned a lesson about high SWR from that.

Regards,
Bill Sorsby, N5BU

bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Michael Crestohl <mc@shore.net>
Subject: RE: Purveyors of Fine Equipment or profiteers/thieves/scumbags?
Message-ID: <199603272020.PAA11471@northshore.shore.net>

Hello Everyone on the List:

I read with great interest the recent postings on people who sell boatanchor equipment at a profit. Of the postings I read, the one that I felt most accurately mirrors my sentiments on the subject is from Chris Sieg. I will not quote it herewith, in the interests of saving bandwidth. Hopefully you who are interested in this thread will have read it already.

I have seen the accumulation of stuff Chris has. Its pretty awesome to behold. Inagine driving through a small picture-postcard New Hampshire town and seeing a KWM-2, HRO-5, Drake 'C-Line in the window of a store. Well, that's what you'll see if you travel to Hillsborough NH. Chris and many other purveyors of fine boatanchor gear provide a valuable service to you - the one who will be accorded the temporary custody of this item - and that is finding it, testing it, repairing and servicing it and standing behind his offerings. I don't know of any other place where you can take your selection to a bench stocked with test equipment and play with it as long as you like before deciding whether or not to buy the item in question. All in a friendly, unhurried environment! Well, friends, that's essentially what Chris offers his clients and quite frankly its worth paying more for the service.

My friend Chuck O'Neal WA1EKV went up there a few weeks ago. For those of you who don't know Chuck (see cover of CQ, Feb 1995!) he is a pretty finicky buyer. Well, he was very pleased with the purchases he made at Chris' shop.

Why do you think the prices are cheaper in the slug stores like Ames and Wally-World? Because you get no service. For that you gotta pay! If you know what you want, the discount shops are good, but advice generally costs more.....

I have been collecting many things most of my life and half the fun is the chase! In the course of my pursuit of goodies I often come across other toys that I think I might want to play with so I pick them up. Quite often I will not want to keep them so I offer them for trade or sale. Sometimes I find something I already have only in better condition so I upgrade. I am a purveyor of equipment to those who are unable to attend the flea markets and search for the goodies. I do it not as a living but as a means for "feeding the habit" and meeting expenses to travel about, ie: lodging, food, gas, tolls, hamfest expenses for two. If I calculated the time I spend on this and figured in what I made, I assure you it'd be less than minimum wage. I do it for the enjoyment and pleasure I derive from this aspect of the hobby. My compensation is the odd piece I add to my collection and the knowledge that I've helped another relic find a temporary place of care and honor. Since I have been involved with several ham radio buddies in finding new homes for some of John Roberts' lifetime accumulation I have become aware of many interesting things about people who are into "stuff". Many have actually thanked us for "saving the

stuff" from destruction and making it available to the Boatanchor community at reasonable cost. You would not believe the hours this team has put into this effort. Since we all make considerably more than minimum wage when we're working at our normal endeavours , we'll never get rich on this deal!

My wife Cynthia, VE2QF, supports my searching for treasures, real and imagined. She is helping me in my efforts to dispose of the John Roberts estate - she is cataloguing all the manuals and books in John's extensive library. She firmly agrees that this stuff should be preserved and not used for landfill.

There are all kinds of people selling stuff these days - jut go to any flea market. What you have to consider is the reputation of the person you're dealing with, What are his (or her) motives? Are they also interested in this stuff or are they just interested in making money? Is that person someone whose word means anything? Will they make good if the equipment doesn't prove satisfactory? These are the questions you should answer before deciding whether someone is a purveyor of fine electronic equipment or a vulture/thief/scoundrel/profiteer/scumbag. There are ALL kinds out there.

73,

\ /_--/_-- / * / \ * \ / - * - - * - / \ * ----- * / _-----/ \ 	H Michael Crestohl, KH6KD/W1 (also VE2XZ) Caretaker of "Boatanchors", Military, Gov't and "Spy" Radio Receiving and Transmitting Equipment. Trade offers always entertained! Internet: mc@shore.net LandLine 617-581-5479 QTH: Nahant Massachusetts (a one-square mile island in Massachusetts Bay, eleven miles from Downtown Boston). Safest Town in the Commonwealth!
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From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Gary Mitchelson <garym@cais.cais.com>
Subject: R390A Tubes
Message-ID: <2.2.32.19960327145725.006812c0@cais.com>

I sent a fax to D & C electronics to get pricing on tubes for the R390A.
I got the following prices on new tubes and in stock:

26Z5W	\$ 4.00
3TF7	\$32.00 a little high since Fair had them for \$17.50

5654/6AK5W	\$ 3.50
5749/6BA6W	\$ 3.50
5814A	\$ 5.00
6AK6	\$ 3.50
6C4	\$ 3.50
6DC6	\$ 4.00
0A2	\$ 4.00

So it looks like a complete retube will run about \$132
 Anyone have any other places with better prices? I haven't got prices back from Fair yet.

The guy that quoted me is Dick Gross at 1 800 881 2374

Gary Mitchelson
 Racal Recorders, Inc.
 garym@racalrecord.com
 N3JPU

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
 From: BOBFABRIS@delphi.com
 Subject: Scott SLRM
 Message-ID: <01I2UNKXS2UA95RYVB@delphi.com>

Chris was looking for a manual for the SLRM - the E.H.Scott Historical Society can supply a copy at \$12. postpaid (item #43.1) from them at 3712 N.Broadway #4450, Chicago IL 60613.

The association is devoted to the Scott radios and the News covers all varieties. The "entertainment receivers" that Scott built - there were about 5 versions having two basic dial types - lasted for quite a while in Service. I had one in my cabin in 1954. Scott's engineers solved the military problem of superhets - where the local oscillator's signal would leave the radio and could be heard by an enemy sub - by the shielding solution mentioned by Henry's message. It earned them the Army/Navy "E" award. Good Luck!

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
 From: USSAILIS@forum.phast.umass.edu
 Subject: RE Shielding of tubes in space
 Message-ID: <01I2ULRBTBKY00GJ7Y@rfd.oit.umass.edu>

I wouldn't think that this is any more of a problem than the protection that is required for rock state devices from cosmic rays, solar wind and all the other nasties in the Fermi sea.

Jim, W1EQ0

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996

From: Ken_Warren@bsd.beavton.k12.or.us (Ken Warren)

Subject: RE SSB ADAPTER FOR R390A

Message-ID: <1025258.ensmtp@bsd.beavton.k12.or.us>

I have seen at least 3 different SSB adapters used with the R390 (and its various versions) in military service..

The CV-157/URR is big but has great audio quality if the transmitting station is leaking enough carrier to lock onto.

The CV-591?URR is much smaller and easier to use and is generally what is found at surplus stores.

The CV-1694/GRC-129 is the smallest one I've seen taking up only 3 1/2 inches of rack space. It only has 2 front panel controls, power on and mode select switch. It was designed to operate with the R-1247/ GRC-129 receiver which is a stabilized R-390 and works fine with the unmodified receivers just as well.

I have used all 3 at one time or another and still like the look of the CV-157 with all those neat knobs and indicators. Be sure to call your electric company before you put one of these on, they will need to warm up another generator.

Good luck on your search. Ken--K7RPX

--

--

Beaverton School District
beavton.k12.or.us

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996

From: "Terry O'Laughlin, RM:7135, #:6-6667" <OLAUGHLIN@vilas.uwex.edu>

Subject: T4/FRC for sale

Message-ID: <MAILQUEUE-101.960327173402.640@vilas.uwex.edu>

I have a T4/FRC lurking in my storage garage that I must sell. The T4/FRC is a WWII Air Force base station transmitter. It is completely self-contained. The "audio" stage has a single 807 and is clearly not big enough to modulate the P-P 810 output stage. Therefore, in the absence of a schematic, I believe it is a CW/FSK transmitter.

The tuning charts list the range with the stock coils as 1.5-6.6mHz in 6 bands. It could probably cover 40meters with proper coils. I have three of the plate coils and five or six of the interstage coils. The unit is all common tubes, 810s, 807s, 6AG7s, VR tubes... No Leo Meyerson weirdness here!

This transmitter is big, but not huge. It has a similar depth and width as the Globe King 500 (which is junk compared to the quality of construction in the T4/FRC.) but is about 18" taller. I would guess that it weighs about 160-170lbs. (Two guys can carry it with some sweat. Much easier to move than a T-368.) The chassis rolls completely out the front of the case and gives easy access to all components. There is a hinged door on the front that covers all the controls. There are two meters behind a glass panel at the top, one multimeter and one plate current. The design is push-pull for three stages, really classic. There are two porcelain insulators on the top for the balanced feedline. The finish is black crackle and is in good shape with a minimal amount of chips. The guts appear to be completely original. This unit could be beautifully restored with a minimum of hassle.

If I had 220/240VAC in the garage, I'd fire it up and see if it plays. It is too big for my new shack, at least that is what my wife said. (Ok, so I've got three six foot racks of R-389/390/390A/391 and accessories already. They're grey and this is black. It will improve the decor... This argument didn't fly. Especially because the washing machine is getting hard to reach.)

I'd like to get \$350, you pick it up. I can toss in a homebrew 811 modulator with a real sweet Thordarson mod transformer and it's own supply for anyone who wants a nice FAT AM signal on 160 or 80. If you're going to come to Madison for the FLARC swapmeet on April 14th, the transmitter is stored about 1 mile away from the festival site. I'll have two tables at the fest. The FLARC guys at the entrance can tell you where my table is.

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996
From: Duby Todd <dube3@n-link.com>
Subject: Re: Tubes in Space
Message-ID: <3158D837.FB7@mail.n-link.com>

Larry Kayser wrote:

(some deleted for brevity)

>

> Whats the problems with keeping the filaments going?

>

> Larry

It's not so much the filaments, but the size and weight. One tube is larger and heavier than an IC with perhaps an entire radio in it. Besides, for tubes you must power not only the filament (heater, most probably), but you need HV for the plate supply. That means even more weight. There was once a joke about the huge size and power of the Russian missiles that went something like: "They gotta have it to get their control systems off the ground".

73,
Dube

AB5AP

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: tony@bright.net
Subject: Unusual R-390A?
Message-ID: <199603280254.VAA28663@brutus.bright.net>

One of my recent swaps made me the happy owner of an R-390A. As an admirer for many years (abetted by my close proximity to Fair Radio), I'm happy as a clam to own one of these fine receivers. And now, to the point...

I checked the tag info against the users list in the BA archive and in Electric Radio, and found that my receiver is from an apparently unknown contract. The tag reads "Manufactured by Capehart Corporation for Adler Electronics, Order No. 20878-PP-63". My set is serial number 5. This info leads me to believe that Capehart was making these sets in 1963, though the lists show them as the maker of the 1961 models. Another interesting item: this set has a metal dial window cover that is spring-loaded and attached to the upper two screws of the dial cover unit. It doesn't look "homebrew", but I've never seen one on an R-390A.

So, the usual "unusual" questions: Anyone know of Adler Electronics, or have any additional information about this contract? Is the dial glass cover standard issue for R-390A's? Also, can anyone decipher the ornage stamp on the front? It says, in a circle "C 23" then, on a second line "USACOMZ" then, on a third line "24". There is a date stamp of 4/68 below that. Any information would be appreciated.

Also, as regards the recent product detector mods for the R-390A: the Hollowstate Newsletter back issues cover these in detail. The back

issues are a genuine steal at a buck each, IMHO.

73 de N8SNC, Tony

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Peter Ferrand <pferrand@scoot.netis.com>
Subject: Re: Unusual R-390A?
Message-ID: <199603280423.XAA12669@scoot.netis.com>

Hi Tony!

> I checked the tag info against the users list in the BA archive and
> in Electric Radio, and found that my receiver is from an apparently
> unknown contract. The tag reads "Manufactured by Capehart Corporation
> for Adler Electronics, Order No. 20878-PP-63". My set is serial> number 5. This
info leads me to believe that Capehart was making these sets
> in 1963, though the lists sho them as the maker of the 1961 models.

> So, the usual "unusual" questions: Anyone know of Adlr Electronics,
or have any additional information about this contract? Is the dial

Just a little light here: My dad worked for the Adler Electronics operation (QC mostly) during this time period and yes, e does remember the R-390's. Adler built communications shelters, truck mounted mostly, for the US Military and I vaguely remember seeing them as a kid. But he never brought one home...

Adler was located in New Rochelle, NY, just north of NY City, wit another plant in Pleasantville (later) and another plant or two near New Rochelle in Pelham I think. Founder Ben Adler merged it ith Adler-Westrex (famous for early movie sound) and it eventually became part of Tex Thornton's Litton Industries, later Litcom in armingdale, LI, just down the street from Harrison Radio in its inal days...later operations (mid 70's by this time) moved to omeplace in Pennsylvania, my dad quit after being laid off and hired ack many times (that was the way it used to work!) and he and I both ost interest in them.

Capehart was an electronics outfit that did lots of stuff and was probably best known for those large "console" am-fm-tv things that filled up a whole wall of a small living room. I think they were headquartered around NYC someplace.

This is all from memory cells not used in years and I have no documentation for any of this!

-Pete
WB2QLL
pferrand@scoot.netis.com

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: Al Klase <alklase@postoffice.ptd.net>
Subject: Re: Unusual R-390A?
Message-ID: <199603280505.AAA01518@ns1.ptd.net>

Just a couple of clues:

>Another interesting item: this set has a metal dial window cover that is
>spring-loaded and attached to the upper two screws of the dial cover unit.
>It doesn't look "homebrew", but I've never seen one on an R-390A.

>

 This would be consistant with a "secure" installation where they
didn't want passersby to read off the frequency.

> Also, can anyone decipher
>the ornage stamp on the front? It says, in a circle "C 23" then, on a
>second line "USACOMZ" then, on a third line "24". There is a date
>stamp of 4/68 below that. Any information would be appreciated.

>

 COMZ stood for Communications Zone (Europe), later known as TASCUM,
Theater Army Support Command. I was stationed at Pirmasens Army Depot in
Germany where they overhauled 390's (Lots of PT0's in the Trash Cans), but I
wasn't directly involved. The name changed while I was there in 1969.
Orange is the official Signal Corps color.

73,

From boatanchors@theporch.com Wed Mar 27 23:21:27 1996
From: USSAILIS@forum.phast.umass.edu
Subject: Re: Vac tubes in space
Message-ID: <01I2UKXKZ8QA00LJX7@rfd.oit.umass.edu>

U light the filament with a long, long, verrrry long wire:)
An interesting question: How did the 0Z4 work? I just saw a glass version, and
it really doesn't have a filament!

Jim, W1EQ0

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: stever@cybercomm.net (Stephan Rashkin)
Subject: VF-122 sold
Message-ID: <199603272057.PAA16037@raven.cybercomm.net>

Happy Happy Joy Joy!!! The same VF122 that I missed from
Terry O'Laughlin about three weeks ago I finally bought..
(original sale didn't complete)..money order is in the mail.
My Viking Adventurer is now complete (modulator, VFO)..

Thank You BA List,
Steve, WA2NHZ

Looking for: 1. Johnson VF-122 VFO
2. BC696 / T-19 Command Xmtr

Steve Rashkin, WA2NHZ
Howell, New Jersey

E-mail: stever@raven.cybercom.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: debral@falcon.cc.ukans.edu
Subject: WTB -- "Understanding Amateur Radio" << ARRL >>
Message-ID: <199603271617.LAA18886@postoffice.reston.mci.net>

Dear fellow BA enthusiasts:

I tried posting this on rec.radio.swap (with no luck) so now you get
to look at it! 8-)

Would like to find a nice clean copy of the ARRL pub "Understanding
Amateur Radio"

73s

Bill Worthington
AA4FM/0
Eudora, Kansas, USA

From boatanchors@theporch.com Wed Mar 27 10:17:39 1996

From: Paul Thekan <Paul.Thekan@pgtp.varian.com>
Subject: WTB TCS Ctrs / Cables
Message-ID: <2.2.16.19960327070306.2e37841e@pgtp.varian.com>

Greetings

My friend Mark is trying to find the connectors or cable assys. for his TCS. Please E mail me , as Mark currently does not have a E mail address , I will forward any info to him.

Thanks very much

Paul N6FEG

Paul Thekan - Speaking for Himself
Paul.Thekan@pgtp.varian.com

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Walt Novinger <waltn@hooked.net>
Subject: WTB: Manual for RCA WR-70A Marker Generator
Message-ID: <3159F639.3F27@hooked.net>

I need the manual (or a copy) for the subject RCA generator. Can anyone help?

Thanx,
Walt
--

=====

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Collector of hollowstate communications receivers and test equipment	
waltn@hooked.net	wnovinger@shl.com
	CI\$: 73348,2015
http://www.hooked.net/users/waltn	

From boatanchors@theporch.com Wed Mar 27 18:01:34 1996
From: Michael.J.Knudsen@att.com
Subject: Xtal filter double peak?
Message-ID: <9603272013.AA01465@bock.ih.att.com>

What does it mean when a plain old classic xtal filter circuit has a double peak? I know there should be a sharp peak, with a very sharp dropoff into a very deep valley on one side, and a more gradual slope off on the other side.

In my case the xtal center freq is about 3000 KC, with the peaks 14 KC apart, of roughly equal amplitude. I'm not "supposed" to twiddle with the slugs in the input and output coils or the phasing trimmer cap, but maybe I should. (If you've been following my posts you know where this xtal is, and why we're tired of seeing that in the subject header :-)

73, mike k aa9rg